

REMARKS

I. Introduction

With the addition of new claims 13 to 18, claims 7 and 13 to 18 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claim 7 Under 35 U.S.C. § 103(a)

Claim 7 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 4,245,789 ("Gray"), U.S. Patent No. 5,732,888 ("Maier et al."), and U.S. Patent No. 5,226,975 ("Denton et al."). It is respectfully submitted that the combination of Gray, Maier et al., and Denton et al. does not render unpatentable these claims for at least the following reasons.

The Office Action admits at page 3 that Gray fails to disclose a height difference between raised areas and recessed areas that is initially **between 5 μ m and 10 μ m** and is reduced to between **4 μ m and 5 μ m** during use of the fuel injector. Indeed, as suggested at page 2 of the Office Action, Gray discloses a surface 63s of a core of a pole piece 62 having a surface roughness rating value on the order of 0.4 μ m to 0.8 μ m. See Gray at col. 8, lines 42 to 62. Since this scale is defined as a deviation from a center line, or medium line, (see col. 8, line 63 to col. 9, line 10), it is apparent that the roughness rating range of 0.4 μ m to 0.8 μ m in Gray would correspond to height differences (in this case, "peak-to-valley") of approximately **0.8 μ m to 1.6 μ m**. Thus, any height difference on of the surface 63s would differ substantially from the claimed ranges.

The Office Action then proceeds to assert at page 3 that "the height of the raised and recessed areas of Gray would increase to 10 μ m as a result of the Maier coating." However, whether or not the alleged raised and recessed areas of Gray would "increase to 10 μ m" is entirely irrelevant, since claim 7 plainly recites that it is the **difference between raised areas and recessed areas that define the claimed ranges of between 5 μ m and 10 μ m and between 4 μ m and 5 μ m**. Thus, even if the proposed application of the coating of Maier et al. to the roughened surface of Gray caused a translation of the alleged raised and recessed areas, this would not result in a **difference between the raised areas and the recessed areas** being within the claimed range. Indeed, there is no disclosure or suggestion

whatsoever in any of Gray, Maier et al., and Denton et al. (or any proposed combination thereof) of a height difference between raised areas and recessed areas that is initially **between 5 μm and 10 μm** and is reduced to between **4 μm and 5 μm** during use of the fuel injector, as recited in claim 7.

In view of the foregoing, it is plainly apparent that the combination of Gray Maier et al., and Denton et al. fails to disclose, or even suggest, all of the features set forth in claim 7. Accordingly, it is plainly apparent that the combination of Gray, Maier et al., and Denton et al. fails to render unpatentable claim 7.

Further, to the extent that the Office Action suggests any modification of the surface roughness of Gray to have raised areas and recessed areas that are within the ranges claimed in claim 7 of the present application, it is noted that **Gray plainly teaches away** from this feature. In addition to unambiguously setting forth that the surface 63s of a core of a pole piece 62 should have a surface roughness rating value on the order of 0.4 μm to 0.8 μm , Gray also sets forth that ***“the surface 73s of the armature 73 can have a roughened surface texture over its entire surface area of a roughness average rating value of 8 to 12 microinches (0.20 to 0.30 micrometers) maximum”*** (emphasis added). Using the definition of the roughness rating disclosed in Gray, this would indicate a peak-to-valley average on the order of **0.4 μm to 0.6 μm maximum**. Thus, in addition to the failure of the combination of Gray, Maier et al., and Denton et al. to disclose, or even suggest, a height difference between raised areas and recessed areas within the ranges recited in claim 7, it is respectfully submitted that this feature would not have been obvious for at least this additional reason.

Regarding the contention on page 5 that claim 7 is a product by process claim, it is not apparent how or why “a surface structure with raised areas and recessed areas” is considered to constitute a product-by-process feature.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

III. New Claims 13 to 18

New claims 13 to 18 have been added. It is respectfully submitted that new claims 13 to 18 add no new matter and are fully supported by the present application, including the Specification. Support may be found, for example, at page 4, line 11 to page 5, line 13 of the Specification and in Figures 2A and 2B.

Since claims 13 to 18 ultimately depend from claim 7 and therefore include all of the features of claim 7, it is respectfully submitted that claims 13 to 18 are patentable over the references relied upon for at least the same reasons set forth above in support of the patentability of claim 7.

IV. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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